AWIPS TIPS FOR IMPROVED SYSTEM PERFORMANCE

The following is a checklist of actions which can be performed to ensure that your AWIPS system is operating at optimum performance. These actions can be performed prior to anticipated severe weather.

☐....1. On the HP graphics and HP text workstations, every Day shift (And every shift prior to Severe Weather):

A. Exit all D2D and applications running (Including Text) and then log out of the workstation.

B. In the ***Options*** button of the HP CDE Login Screen select the ***Restart Login Screen*** option. This cleans up the X Server, which can end up using up a lot of memory as it grows over a shift.

☐....2. On the Linux workstations, every Day shift (And every shift prior to Severe Weather):

A. Exit all D2D and applications running on the workstation.

B. Log out of the workstation so that you return to the Login Screen. The logout terminates the X Server thus freeing up any excessive memory used by the X Server. A new X Server is started when you log back into the Linux workstation.

☐....3. Contact the NCF (301-713-9344) and notify the NCF that you will be stopping and restarting the ingest processes on the servers. The NCF receives alarms whenever ingest processes are stopped and restarted. Your phone call will notify the NCF that the ingest processes which are being terminated is a planned activity and not a software fault which must by corrected by the NCF.

This is also an appropriate time to ask the NCF to place your site in Critical Weather Monitoring.

☐....4. Before a Severe Weather shift, restart all processes on the DS and AS servers. If the ESA, SOO, ITO or AFP are not in the office, the staff (Lead Forecaster decision) can call NCF and ask the NCF to restart the processes.

A recommended procedure for restarting all processes on the DS and AS servers is as follows:

Step A: As the ***root*** user on the ***DS1*** server, run the ***cmviewcl*** command to verify that the swap packages are running in a normal configuration. Here is an example of the cmviewcl command from the ds1-nhow system which can be used as a reference.

The first section of this cmviewcl example output indicates that the AS1 server is hosting the as1swap package:

```
NODE          STATUS       STATE
as1-nhow      up           running

   PACKAGE       STATUS        STATE         PKG_SWITCH    NODE
   as1swap       up            running       enabled       as1-nhow
```

The second section of this cmviewcl example output indicates that the AS2 server is hosting the as2swap package:

```
NODE          STATUS       STATE
as2-nhow      up           running

   PACKAGE       STATUS        STATE         PKG_SWITCH    NODE
   as2swap       up            running       enabled       as2-nhow
```

The third section of this cmviewcl example output indicates that the DS1 server is hosting the dsswap package and the DS2 server is running and available for a DS1–>DS2 failover:

```
NODE          STATUS       STATE
ds1-nhow      up           running

   PACKAGE       STATUS        STATE         PKG_SWITCH    NODE
   dsswap        up            running       enabled       ds1-nhow

NODE          STATUS       STATE
ds2-nhow      up           running
```

If the as1swap, as2swap and dsswap swap packages are not running on the AS1, AS2 and DS1 servers respectively, contact the NCF.

Step B: To restart the fxa ingest processes running on the DS1 server, enter the following commands as the ***fxa*** user on the ***DS1*** server:

stopIngest.ds1
stopTextDB.ds1
ps -ef | grep fxa (verify all fxa ingest processes are terminated before restarting)
startTextDB.ds1
startIngest.ds1

Step C: To restart the ldad ingest processes on the DS1 and LS1 servers, enter the following commands as the ***ldad*** user on the ***DS1*** server:

stopLDAD.sh
ps -ef | grep ldad (verify all ldad ingest processes are terminated before restarting)
remsh ls1 "ps -ef | grep ldad" (verify all baseline ldad ingest processes are terminated before restarting. The suaReceiver, watchDogExternal.sh, CO_serv, newLDADdataNotification, MakePROCpage and MakeLDApage processes should not be running)
startLDAD.csh

Step D: To restart the fxa ingest processes running on the AS1 server, enter the following commands as the ***fxa*** user on the ***AS1*** server:

stopIngest.as1
stopTextDB.as1
ps -ef | grep fxa (verify all fxa ingest processes are terminated before restarting)
startTextDB.as1
startIngest.as1
stopNotificationServer
startNotificationServer

Step E: To restart the fxa ingest processes running on the AS2 server, enter the following commands as the ***fxa*** user on the ***AS2*** server:

stopIngest.as2
ps -ef | grep fxa (verify all fxa ingest processes are terminated before restarting)
startIngest.as2

☐....5. Before a Severe Weather shift, restart all processes on the PX servers (**if installed**).

Before a Severe Weather shift, restart all processes on the PX servers. If the ESA, SOO, ITO or AFP are not in the office, the staff (Lead Forecaster decision) can call NCF and ask the NCF to restart the processes.

A recommended procedure for restarting all processes on the PX servers is as follows:

Step A: As the ***root*** user on the ***PX1*** server, run the ***clustat*** command to verify that the cluster status on px1 is running in a normal configuration. Here is an example of the clustat command from the px1-nhow system which can be used as a reference.

This clustat example output indicates that the px1 server is running the px1apps service:

```
Cluster Status Monitor (awips)                                    19:39:00

Cluster alias: Not Configured

====================  M e m b e r   S t a t u s  =====================

  Member          Status     Node Id    Power Switch
  --------------- ---------- ---------- ------------
  px1-nhow        Up         0          Good
  px2-nhow        Up         1          Good

====================  H e a r t b e a t   S t a t u s  ===============

  Name                           Type       Status
  ------------------------------ ---------- ------------
  px1-beat    <--> px2-beat      network    ONLINE
  /dev/ttyS1  <--> /dev/ttyS1    serial     ONLINE

====================  S e r v i c e   S t a t u s  ====================
                                             Last           Monitor  Restart
 Service       Status   Owner                Transition     Interval Count
 ------------ -------- -------------- ---------------- -------- -------
 px1apps      started  px1-nhow       18:02:10 Feb 21  0        0
 px2apps      started  px2-nhow       18:12:03 Feb 21  0        0
```

If the px1 cluster is not running in a normal configuration, contact the NCF.

Step B: As the ***root*** user on the ***PX2*** server, run the ***clustat*** command to verify that the cluster status on px2 is running in a normal configuration. Here is an example of the clustat command from the px2-nhow system which can be used as a reference.

This example indicates that the px2 server is running the px2apps service:

```
Cluster Status Monitor (awips)                                    19:46:00

Cluster alias: Not Configured

====================  M e m b e r   S t a t u s  ====================

  Member          Status     Node Id    Power Switch
  --------------  ---------- ---------- ------------
  px1-nhow        Up         0          Good
  px2-nhow        Up         1          Good

====================  H e a r t b e a t   S t a t u s  ===============

  Name                           Type       Status
  ------------------------------ ---------- ------------
  px1-beat    <--> px2-beat      network    ONLINE
  /dev/ttyS1  <--> /dev/ttyS1    serial     ONLINE

====================  S e r v i c e   S t a t u s  ====================
                                          Last           Monitor  Restart
 Service       Status   Owner             Transition     Interval Count
 ------------  -------- --------------    -------------- -------- -------
 px1apps       started  px1-nhow          18:02:10 Feb 21  0        0
 px2apps       started  px2-nhow          18:12:03 Feb 21  0        0
```

If the px2 cluster is not running in a normal configuration, contact the NCF.

Step C: To restart the fxa ingest processes on the PX1 server, enter the following commands as the ***fxa*** user on the ***PX1*** server:

stopIngest.px1
ps -efw | grep fxa (verify all fxa ingest processes are terminated before restarting)
startIngest.px1

Step D: To restart the fxa ingest processes on the PX2 server, enter the following commands as the ***fxa*** user on the ***PX2*** server:

stopIngest.px2
ps -efw | grep fxa (verify all fxa ingest processes are terminated before restarting)
startIngest.px2

☐....6. Test WarnGen. This is especially important if WarnGen has not been used in a while or recent software changes have been made to AWIPS. There are various AWIPS configuration changes, software installs, or localizations that may have adversely affected WarnGen without your knowledge. Start a WarnGen session, select your items on the WarnGen menu, manipulate the warning box, and press "Create Text". Verify that the warning looks OK in the text window. Depending on the circumstances and local operational procedures, you may want to transmit a test warning and check that it was disseminated. Be certain that the product is clearly identified as a test! If it's not appropriate to transmit the test, then exit.

☐....7. **If you have not already asked the NCF to perform Critical Weather Monitoring on your AWIPS system, call the NCF (301-713-9344) and request that service.**

☐....8. To speed up the DS, for all triggers, use the textdb -w if necessary. Do not use the textdb -r option on any of them. Also only run a trigger once per PIL. If you need to run multiple applications on the same PIL, use the C-Shell or Posix shell script to run all applications. This way your number of triggers is much smaller.

☐....9. Tweaking the number of frames to loop in the small panes of D2D, helps free up memory, but does take longer to reload after swapping panes.

☐....10. There have been some comments that the WarnGen text window takes some time to pop up on the text workstation during a severe weather event. Here is a list of performance tips to try to speed up the text window/workstations.

A. If you have time before the weather reaches your area, close all windows and programs running on the text workstation. Logout of the workstation and power off the text workstation, then turn the power back on.

B. Exit out of the Monitoring and Controller window. This should not be running on your warning workstation.

C. Make sure the Update Obs feature is not turned on in any of the text windows.

D. Do not run any other local applications on your text workstation.

E. Limit the number of looping frames in your D2D windows. If you can, do not loop products in the small panes.

F. Limit the number of alerts you send to that text workstation.

☐....11. If the Application Server is being impacted you can do the following to disable SCAN/FFMP. As user ***fxa*** on ***AS1***,

To stop the SCAN and FFMP processes, enter the following commands as the ***fxa*** user on the ***AS1*** server:

cd /awips/fxa/bin
./stopFFMPprocessor
./stopSCANprocessor
chmod 444 startFFMPprocessor
chmod 444 startSCANprocessor
chmod 444 SCANprocessor
chmod 444 FFMPprocessor
remsh as2 "chmod 444 /awips/fxa/bin/startFFMPprocessor"
remsh as2 "chmod 444 /awips/fxa/bin/startSCANprocessor"
remsh as2 "chmod 444 /awips/fxa/bin/SCANprocessor"
remsh as2 "chmod 444 /awips/fxa/bin/FFMPprocessor"

To start the SCAN and FFMP processes, enter the following commands as the ***fxa*** user on the ***AS1*** server:

cd /awips/fxa/bin
chmod 775 startFFMPprocessor
chmod 775 startSCANprocessor
chmod 775 SCANprocessor
chmod 775 FFMPprocessor
remsh as2 "chmod 775 /awips/fxa/bin/startFFMPprocessor"
remsh as2 "chmod 775 /awips/fxa/bin/startSCANprocessor"
remsh as2 "chmod 775 /awips/fxa/bin/SCANprocessor"
remsh as2 "chmod 775 /awips/fxa/bin/FFMPprocessor"
./startFFMPprocessor
./startSCANprocessor

PLEASE remember to notify the NCF if you do this so that they will not restart these processes for you. You can also have the NCF put your site in critical watch mode during active weather and they will be able to monitor your system.

Email suggestions about this document to Wayne.Martin@noaa.gov.